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4. A manufacturing method for an optical fiber grating according to claim 1, wherein said uniform ultraviolet irradiation processing and said heat trimming processing are carried out while monitoring the transmitted light, the reflected light, and the reference light of the optical fiber.

5. An optical fiber grating comprising a grating part having a periodic refractive index distribution due to irradiation of the optical fiber along the longitudinal direction by ultraviolet light at a predetermined period and a sample fiber having a constant refractive index, wherein the minimum refractive index of said grating part is larger than the refractive index of said sample fiber, and the variation of the smallest refractive index of said grating part is sufficiently smaller than the amount of change in the periodic refractive index.
6. A manufacturing apparatus for an optical fiber grating providing an ultraviolet irradiating apparatus and a heating apparatus for adjusting the optical properties of the optical fiber grating.
7. A manufacturing apparatus for an optical fiber grating according to claim 6 wherein a mechanism that implements said uniform ultraviolet irradiation processing and said heat trimming processing maintains a constant tension on the optical fiber.